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CIRCLE OF THE MECHANIC ARTS.

No. IV.

CABINETMAKING—NO. I.

It is the business of the cabinet-maker to manufacture particular kinds of household furniture, such as tables, stands, bureaus, sideboards, desks, bookcases, sofas, beadsteads, &c., as well as a certain description of chairs made of mahogany and maple. Many of the operations of this business are similar to those of the carpenter and joiner, although they require to be conducted with greater nicety and exactness.

The qualifications of a finished cabinet-maker are numerous and of difficult acquisition; so that they are seldom concentrated in any single individual. He requires not only a correct taste, but also a knowledge of drawing, architecture, and mechanics, besides the abilities of a good practical workman.

A knowledge of drawing is especially useful in designing new articles of furniture, or in improving the form of those which have been already introduced. It also enables the artist to determine with accuracy what would be the general effect of furniture, were different pieces of it placed in any proposed apartment; and, combined with architectural knowledge, it enables him to adapt the style of his wares to that of the building for which they may be designed.

In general, the principles of this business are fixed, so far as relates to the mode of operating in the execution of the work; yet continual changes are made in the form and construction of its various articles, so as to keep pace with the advancement of correct taste, or with the caprice of fashion. In fact, the shapes of furniture are almost as changeable as those of female dress; and this causes many expensive pieces to fall into disuse, while others are introduced, which, for a time, are considered indispensible to comfort, and which in turn enjoy but a temporary favor.

The cabinet-maker uses various kinds of wood in the manufacture of his wares; but those which are most frequently employed in the United States are pine, maple, poplar, cherry, black walnut, white oak, beach, mahogany, and rose, all of which are abundant in this country, except the last two. Mahogany is brought in great quantities from the West Indies and South America; rosewood is obtained chiefly from the West Indies and Brazil, although it was first introduced into notice from the island of Cyprus.

The applicability of mahoghany to the manufacture of cabinet-ware, was accidentlly discovered in London, about the year 1724. A physician, named Gibbons, received a present of some of the planks from his brother, a sea-captain, who had brought them from the West Indies, chiefly as ballast. The doctor was, at that time erecting a house, and, supposing them to be adapted to the purposes of building, gave them to the workmen, who, on trial, rejected them as being too hard to be wrought with their tools.

A cabinet-maker was next employed to make a candle-box of some of it, and he also complained of the hardness of the timber; but, when the box was finished, it outshone in beauty all the doctor's other furniture. He then required a bureau to be made of the same kind of material; and, this having been finished, became the subject of exhibition to his friends, as a piece of remarkable beauty. The wood was immediately taken into general favor, and it soon became an article of merchandise of considerable importance.

In giving the reader a view of the operative part of this business, we have selected the bureau as affording the best means of illustration. The material which composes the frame and drawers of this piece of furniture, is commonly some kind of soft wood, such as pine or poplar; and this is faced with thin layers of mahogany in those parts which are to be exposed to view.

The materials for the frame and drawers are first marked out, and the several pieces reduced to the form and dimensions required, with planes and other instruments. Thin pieces of mahogany are firmly fixed on the surfaces which require them. This part of the work is called *veneering*. The workman prepares the surface of the soft wood for the *veneer*, by cutting it into small contiguous grooves by means of a small plane, the cutting edge of which is full of little notches and teeth.

Melted glue having been spread upon both surfaces with a brush, the parts are placed in contact, and firmly pressed together by means of *hand-screws*. Before the screws are applied, the surface of the veneer is covered with a piece of heated board, termed, in this application, a *caul*. One piece of this kind commonly serves a veneer on each side of it at the same time.

The mahogany thus attached to the softer wood, is afterwards wrought with the *toothed-plane*, and others of the common kind. It is then scraped with a flat piece of steel, having edges which act upon the surface in the same manner as pieces of broken panes of glass. The polishing is finished, so far as it is carried at this stage of the process, by the use of sand-paper.

The several pieces which compose the frame of the bureau are put together with the joint called *mortice* and *tenon;* and those which form the four sides of the drawers, with that called *dove-tail*. The bottom is united to the sides on the right and left, and sometimes in front, by the *groove-and-tongue*, and its rear edge is fastened with a few nails. The *bearers* of the drawers are fastened on by means of nails.

The joints are made to fit not only by the accuracy of the work, but by the application of glue previous to the union of the parts; this is especially the case with the mortice and tenon. The back of the bureau is composed of some cheap wood, such as pine or poplar; but the panel at each end is most commonly plain mahogany through its entire thickness.

The parts which are to be exposed to view are next to be varnished and polished. The material for the former purpose is called *copal varnish*, because one of the principal ingredients in it is a kind of gum called copal, which is obtained from various parts of South America. This kind of varnish is made by melting the gum with an equal quantity of linseed-oil and spirits of turpentine or alcohol.

To give the work a complete finish, four coats of varnish are successively applied; in addition to these, a particular kind of treatment is used after laying on and drying each coat. After the application of the first coat, the surface is rubbed with a piece of wood of convenient form; after the second, with sand paper and pulverized pumice-stone; after the third, with pumice-stone again; and after the fourth, with very finely powdered pumice-stone and rotten-stone. A little linseed-oil is next applied, and the whole process is finished by rubbing the surface with the hand charged with flour.

Some parts of several pieces of furniture are turned in the lathe; and, in large cities, this part of the work is performed by professed turners. The veneering of certain kinds of work of a cylindrical form is, also, in some cases, a distinct business; but, in places distinct from large cities, the whole work is commonly performed by the cabinet-maker himself.

Mahogany is brought to market in logs hewn to a square form; and persons who deal in it, commonly purchase it in large quantities, and cause it to be sawn into pieces of suitable dimensions for sale. Formerly, and in some cases at present, slabs were sawn into thin pieces for veneering by hand; but, within a few years, a more expeditious method, by the circular saw, has been adopted. In performing the operation by this means, the slab is placed upon its edge, and shoved along against the teeth of the rapidly-revolving saw. It is kept in the proper position by holding the right side of it firmly against an upright plank, called the *rest*.

Mahogany is either *plain*, *mottled*, or *crotched*; nevertheless, the different kinds expressed by these terms are met with in the same tree. The variegated kinds are found at or near the joining of the limbs to the trunk; and these are used almost exclusively for veneering. The plain sort is employed for more common purposes, and in those parts of furniture required to be less splendid in

appearance. It may be well to remark, also, that plain mahogany is often veneered, as well as the softer woods. Black walnut, white oak, rose, and several other woods, are likewise used for veneering, although not so much as mahogany. Our native woods will be hereafter more used in this way, since mahogany is becoming scare.

In Europe, particularly in England, the business of the cabinet-maker is commonly united with that of the upholsterer; and this is sometimes the case in the United States. All, however, who make sofas and chairs, intrude enough upon the latter business to cover and stuff them; or they employ a journeyman upholsterer to perform this part of the work.

We are indebted to Mr. Hazen's *Technology* for the above, to which we shall have some additional particulars to give at a future day.

ARCHITECTURE—NO IV.

We come now to consider the form of buildings. A cube or square, is a more agreeable figure than an oblong, or parallelogram. This constantly holds good in small figures, but a large building in form of a cube, is lumpish and heavy; therefore an oblong form is always prefered for dwelling houses. Care should, however, be taken to avoid making the plan longer than necessary, as there will be great waste in the passages, and considerable difficulty in lighting them.

With regard to the internal divisions, it is more convenient that the rooms should be rectangular, to avoid useless space. An hexagonal, or six sided figure leaves no void space, but it determines the rooms to be all of one size, which is both inconvenient and disagreeable for want of variety. Though a cube may be the most agreeable figure, and may answer for a room of moderate size, yet, in a very large room, utility requires a different form. The best form for a long room, is that of a parrallelogram, and this figure is also best calculated for the admission of light; because, to avoid cross lights, all the windows ought to be in one wall; and if the opposite wall be at such a distance as not to be fully lighted, the room must be obscure. Dining rooms should be so situated, as to give an easy access to servants who wait at table; and the fire-place so placed as to warm the room uniformly. In the building of chambers, regard ought to be had, as well to the place of the bed, which is generally six or seven feet square, and the passage, as to the situation of the chimney, which for this consideration ought not to be placed just in the middle, but distant from it about two feet, or two feet six inches; this, however, will be unnecessary in very large bed-chambers. The height of a room, exceeding nine or ten feet, has little relation to utility; therefore proportion is the only rule for determining the height, when above that number of feet. Artists, who deal in the beautiful, love to entertain the eye; palaces and sumptuous buildings, in which beauty and grandeur may be displayed, give them an opportunity of showing their taste. But such a propensity is peculiarly unhappy with regard to private dwelling-houses; because in these, utility cannot be sacrificed to magnificence, without hurting their intrinsic worth. There is no opportunity for great variety of form in small houses. And in edifices of this kind, internal convenience has not hitherto, been happily adjusted to external regularity. Perhaps an acurate coincidence in this respect is beyond the reach of art. Architects, however, constantly split on this rock. For they never can be persuaded to give over attempting to reconcile these two incompatible objects; how otherwise should it happen, that the endless variety of dwelling-houses, there should not be one found that is generally agreed upon as a good model? The unweared propensity to make a house regular as well as convenient, obliges the architect, in some instances, to sacrifice convenience to regularity, and in others, regularity to convenience; and accordingly the house that turns out neither regular nor convenient, never fails to displease.—Nothing can be more evident, than that the plan of a dwelling-house ought to be suited to the climate.

We shall next view architecture as one of the fine arts; which will lead us to the consideration of such buildings, and parts of buildings, as are calculated solely to please the eye. Variety prevails in the works of nature; but art requires to be guided by rule and compass. Hence it is, that in such works as imitate nature, as in laying out pleasure grounds, planting, &c. the great aim should be to hide every appearance of art, which is done by avoiding regularity, and indulging variety. But in works of art that are original, and not imitative, such as architecture, strict regularity and uniformity ought to be studied, as far as consistent with utility.

Proportion is not less agreeable than regularity and uniformity, and therefore, in buildings intended to please the eye, they are all equally essential. It is taken for granted by many writers, that in all the parts of a building there are certain strict proportions which please the eye, in the same manner as in sound, there are certain strict proportions which please the ear; and that in both, the slightest deviation is equally disagreeable. But it ought to be considered, that there is no resemblance or relation between the objects of different senses. What pleases the ear in harmony, is not the proportions of the strings of the instrument but of the sounds which these strings produce. In architecture, on the contrary, it is the production of different quantities that please the eye, without the least relation to sound. Perrault in his comparison of the ancients and moderns, goes to the opposite extremes, maintaining that the different proportions assigned to each order of columns are arbirary, and that the beauty of these proportions is entirely the effect of custom. But he should have considered, that if these proportions had not originally been agreeable, they could never have been established by custom.

For illustrating this point, we shall add a few examples of the agreeableness of different proportions. In a sumptuous edifice, the capital rooms ought to be large, otherwise they will not be proportioned to the size of the building; for the same reason a very large room is improper in a small house. But in things thus related, the mind requires not a precise or single proportion rejecting all others; on the contrary, many different proportions are equally agreeable. It is only when a proportion becomes loose and distant, that the agreeableness abates, and at last vanishes. Accordingly in buildings, rooms of different proportions are found to be equally agreeable, even where the proportion is not influenced by utility. With regard to the proportion, the height of a room should bear to the length and breadth, it must be extremely arbitrary, considering the uncertainty of the eye as to the height of a room, when it exceeds 16 or 17 feet. In columns, again, every architect must confess, that the proportion of height and thickness varies between eight diameters and ten, and that every proportion between these two extremes is agreeable. Besides there must certainly be a further variation of proportion, depending upon the size of the column. A row of columns ten feet high, and a row twice that height, require different proportions; the inter-columniations must also differ in proportion according to the height of the row.

Proportion of parts is not only in itself a beauty, but is inseparably connected with a beauty of the highest relish, that of concord and harmony: which will be plain from what follows. A room, the parts of which are all finely adjusted to each other, strikes us not only with the beauty of proportion, but with a pleasure far superior; the length, the breadth, the height, raise each of them a separate emotion. These emotions are similar; and though faint when separately felt, they produce in conjunction the emotion or harmony, which never fails to please. On the other hand, where the length of a room far exceeds the breadth, the mind, comparing together parts so intimately connected, immediately perceives a disagreement or disproportion which offends. Hence a long gallery, however convenient for exercise, is not an agreeable figure for a room.

From the Baltimore Saturday Visiter.

FALSE APPEARANCE.

BY T. S. ARTHUR.

[Concluded.]

Mr. March was not a bad hearted man. He would not, in the utter regardlessness of a debtor's necessities, oppress him and drive him to extremities, under the influence of a selfish desire to get his own, when he knew that his debtor was doing every thing in his power to pay him. But he often took very narrow views of things, and acted from prejudices easily excited. He was, likewise, too ready to judge from appearances. And if these appearances to his mind indicated that any one who owed him money was indifferent about paying him, he would get angry, and proceed at once to extreme measures.

The debt due to him from Holman was one that had always annoyed him when he thought about it. He had loaned the young man whose failure had involved Holman in ruin, four hundred dollars only a few weeks before that young man was entirely broken up, simply as a matter of business courtesy. The amount was to have been returned in three or four days. Instead of this, it was delayed some weeks, and then came the failure.

The assets of the bankrupt, including notes borrowed of Holman, some of which had not yet been discounted, yielded only about fifty cents in the dollar. Of these assets not forty cents were in cash. The creditors after several meetings agreed to divide every thing proportionably, and take their chances, thus saving the delay and expense of a trusteeship. A note of two hundred dollars, signed by Holman, having four months to run, fell to the share of Mr. Marsh. Long before this came due, however, the drawer had exhausted every dollar of his little property, in lifting notes previously given at short dates. It was of course protested for non-payment, and then placed in the hands of Smith for collection.

Through much persuasion, and by paying the collector thirty dollars at once, and the cost of protest, Holman prevailed upon him not to bring suit. As ten dollars every two or three months was all that he could pay him after that, for he had six other protested notes to settle in the same way,

he was often threatened, besides being dunned with a steady annoying perseverance. To lose two hundred out of the four hundred dollars, and then to be forced in obtaining the balance, vexed Mr. Marsh a good deal, and in spite of his better judgment he transferred his unkind feelings from the original debtor to poor Holman.

It was about twelve o'clock on the day after the concert, that the collector called at the store where Holman was employed as a clerk.

"That balance of a hundred dollars must be settled at once," he said, abruptly coming up to the young man.

"That is impossible, Mr. Smith," was the calm reply.

"Mr. Marsh says he cannot wait any longer."

"I am sorry for it, Mr. Smith, both for his sake and my own. It will be utterly impossible for me to pay him now,"

"How soon will you pay that balance?"

"I cannot pay you any faster than I have been paying you for the last year."

"That will not do. The bill must be settled at once, or suit will be brought against you."

"I hope not, Mr. Smith. It cannot produce the amount a day earlier. Perhaps, by embarrassing me with court charges, not near so soon."

"We'll trust that, sir," the collector replied, and withdrew.

Suit was accordingly brought, and after duly progressing a judgment was rendered up against Holman, for one hundred dollars, with interest and costs amounting to thirty dollars more.

Thus the matter was allowed to rest for thirty days, when an execution was obtained and the body of the unfortunate man was taken and lodged in prison. After the wild agitation of his mind had in some degree subsided, he attempted to write a note to his wife, informing her of the painful condition in which he found himself placed. But he could not at first do it. He could not get his own consent to breathe to her the distressing truth.

At dinner time she awaited for his return for more than an hour, before she sat down with the children. Two or three times a press of business had detained him at the store, and she thus accounted for his absence now; still a vague feeling of uneasiness pressed upon her mind, and took away all appetite for food.

It was about five o'clock in the afternoon that a note was left for her at her door. She recognized the writing of her husband in the direction, and instantly broke the seal with a trembling hand.

The note ran thus:

"DEAR JANE—What I dreaded has come to pass. Old Marsh ordered an execution to be taken out yesterday, and to-day I have been lodged in Moyamensing prison. How long I shall be kept here Heaven only knows. But what shall I say to you? What comforting assurances can I urge? For four or five hours I have delayed writing, in hope that something would suggest itself to my mind that I might offer you to rest upon. But there is nothing—nothing. I am in prison, and who shall care for you and the dear children."

The note fell from Mrs. Holman's hand, and she sat for a few moments as if mind and body were both suddenly paralized. Then quickly rising, she dressed herself to go out, with hurried hands. In ten minutes she was standing on the steps of a beautiful dwelling in Walnut street.

"Is Mr. Marsh in?" she asked of the servant who opened the door.

"Yes, ma'am, but is engaged at present."

"Tell him that I wish to see him," was Mrs. Holman's reply.

The servant returned in a few moments, and said that Mr. Marsh begged to be excused, as he was very much engaged, but that if madam would call in the morning he would be at leisure.

"Tell Mr. Marsh, that my business with him is urgent, and cannot be delayed."

The servant hesitated to return with the message.

"I must and will see him now," Mrs. Holman said in a firm tone, as she saw the servant's unwillingness to go again to Mr. Marsh.

"The woman says that she will not go until she sees you," the servant said, re-entering the room where Mr. Marsh sat with three or four gentlemen.

"Won't go, John?"

"No, sir—she says she won't go until she has seen you."

"Then show her up here, John. It will be the easiest way to get rid of her, whoever she is, to see her at once."

"May I speak a word with you alone, sir?" Mrs. Holman said, in a hesitating voice and with a timid air, as she found herself unexpectedly in the presence of several gentlemen.

"I can listen to any thing you have to say here, madam," Mr. Marsh replied, leaning back in his chair, and looking calmly and somewhat supieciliously in the woman's face. The fact was, he felt provoked at her importunity.

"I would rather see you alone, sir."

"O, very well," was the impatient reply.

"Step out here."

"You have imprisoned my husband, sir," Mrs. Holman said, the moment the door of the room through which they had emerged into the passage closed behind them.

"Your husband, madam? Who is your husband?"

"Mr. Holman."

"Oh! ah! yes. And what is more, madam," the manner of Mr. Marsh becoming stern and indignant, "I intend keeping him there until he settles my claim, or gives me good security for it."

"O, sir, do not say so!" exclaimed the wife, bursting into tears. "He cannot"—

"Here, John, show the lady down stairs," Mr. Marsh said in a loud voice to the servant, and then turned abruptly away, and entered the apartment from which he had come forth a few moments before.

"Too bad! too bad!" he ejaculated, as he rejoined the individuals he had left.

"What's the matter, Marsh?" asked one.

"It's no use to try to get justice in this world, unless your heart is as hard as iron. So sure as you make a fellow who tries to cheat you toe the mark, here comes half a dozen women and children after you, driving you crazy with their tears and pitiful stories."

"So you've been making some one toe the mark, it seems."

"I have that; and what is more, I intend to make him keep his toes there."

"Who is he?"

"A fellow by the name of Holman, who has been for two years now paying me half of two hundred dollars. As I found he could afford to attend concerts with his family, and such kinds of places, I thought he could pay me; and so I put the screws to him, as my collector says. And now that he has suffered himself to go to prison, he has sent his wife here to try and soften me with her tears. But I'm not made of such easy stuff. Not I."

"Holman, did you say?" asked one of the company.

"Yes."

"He's clerk for Marshall & Co., is he not?"

"Yes."

"Did he contract the original debt?"

"No. His note for two hunderd dollars was all I received for four hundred loaned to a scamp, who failed and left assets to the amount of about fifty cents in the dollar."

"And he's paid you half of it in two years?"

"Yes."

"Do you know any thing about him?"

"Not I, except that he's a tough customer to get money out of."

"I am afraid, Mr. Marsh, that you have unintentionally wronged an innocent and truly unfortunate man."

"How so?"

"About two years ago he was doing a good business, and was worth, I presume, some six or seven thousand dollars. He had, however, imprudently loaned his notes and money to a friend who failed at that time, and involved him in ruin. Not only was every thing swept from him, but his name was on paper after every thing was gone, for about two thousand dollars."

"Some friends urged him to take the benefit of the insolvent act, but he would not do that. After a month or two, he obtained a situation as clerk with Marshall & Co. at eight hundred dollars per annum. On that salary, with what posting he could get to do at night, and with the assistance of his wife, who, though not in very good health, has taken in sewing ever since, he has managed to pay off five hundred dollars a year, or one thousand out of two thousand. If he has paid you one hundred, it is the exact proportion to which you are entitled. Could you ask for more?"

"Are you sure that your statement is correct?" asked Mr. Marsh, in a changed tone.

"O yes, very sure. And what makes the case a peculiarly interesting one is the fact, that he and his wife are well educated, and have finely cultivated tastes. A library of choice books, a beautiful piano and harp, and other things called luxuries by some, but really necessary to the happiness of such persons, were all sacrificed to their scrupulous regard to justice. I think that with me, Mr. Marsh, you will call his a truly hard case. Not one of his creditors, or rather the creditors of another, whose place he has been forced into, stands at all in need of the money that he is toiling early and late to pay. And now, after having done so much, he is thrown into prison by one who has every comfort and every luxury around him"

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About nine o'clock that night, a carriage drove up to the entrance of Moyamensing prison, from which Mr. Marsh stepped as soon as the driver had reined up his horses. In a few minutes after he entered the apartment of the debtor.

"I have done you a great wrong, Mr. Holman," he said, advancing and offering his hand, "and now I come to repair that wrong to the extent of my power. I have seen all your creditors since six o'clock, and on stating to them your case, each one has volunteered to cancel the balance of his claim against you. This is nothing but justice. The debt was not originally yours. You have borne half of it; we will cheerfully leave the other half. And now, sir, let me have the pleasure of taking you back to your family. My carriage is at the door, and yon are no longer a prisoner. Can I do more to atone for my cruel persecution of one whose history I did not know, or I never would have asked for the first dollar of my claim?"

So sudden and unexpected an issue melted down the feelings of Holman, and he could only respond by an earnest pressure of the hand, and a look of fervent gratitude.

The meeting on his return home we will not attempt to describe. It was full of joy.

"That was the night just before the morning," his wife remarked with a smile, a few days afterwards, in allusion to the painful trial through which they had just passed.

"And it was indeed gloomy and dark," replied her husband; "but it is past now."

"Never again will I permit myself to form a hasty judgment from appearances," remarked old Mr. Marsh, a few days afterwards, on relating the incident just detailed to a friend.

"It is dangerous to do so," was the friend's reply. "For it is very hard at times to discriminate between *true* and FALSE APPEARANCES.

Dean Swift says, a woman may knit her stockings, but not her brow—she may darn her hose, but not her eyes—curl her hair, but not her lip—and thread her needle, but not the public streets.

A man can never be respectable in the eyes of the world or in his own, except as far as he stands by himself, and is truly independent. He may have friends, he may have domestic relations, but he must not in these connections lose his individuality.

KNOWLEDGE FOR THE PEOPLE.

MECHANICS.

Why are certain truths termed physical?

Because they explain the greater part of the phenomena of nature, the term physical being derived from the Greek word signifying *nature*, an appellation distinguishing them from *chemical* truths, which regard particular substances, and from *vital* truths, which have relation only to living bodies.—*Arnott.*

Why is an atom so called?

Because of its origin from a Greek word signifying *that which cannot be further divided*, or an exceedingly minute resisting particle.

Why is the term attraction used?

Because of the atoms of which the visible universe is built up, whether separate or already joined into masses, tend toward all other masses, with force proportioned to their proximity; as, when any body falls or presses towards the great mass of the earth, or when the tides on the earth rise towards the moon.

Why is the term repulsion used?

Because, under certain known circumstances, as of heat diffused among the particles, their mutual *attraction* is countervailed or restored, and they tend to separate with force proportioned to their proximity; as when heated water bursts into steam, or when gunpowder explodes.

Why is the term inertia used?

Because it denotes that the atoms, in regard to motion, have about them what may be figuratively called a *stubbornness*, tending always to keep them in their existing state, whatever it may be; in other words, that bodies neither acquire motion nor lose motion, nor bend their course in motion, but in exact accordance to some force applied.

This and the three preceding definitions are derived from the Synopsis of Dr. Arnott's valuable *Elements of Physics*, (Part I. third edit, 1828) the author pertinently observing, that "a person comprehending fully the import of these four words, *atom, attraction, repulsion, inertia*, may predict or anticipate correctly, very many of the facts and phenomena which the extended experience of a life can display to him."

Why are not men sensible of the rapid motion of the earth?

Because all things move at the same rate. Whatever *common* motions objects may have, it does not interfere with the effect of a force producing any new relative motion among them. All motions seen on earth are really only slight differences among the common motions; as, in a fleet of sailing ships, the apparent changes of place among them are, in truth, only slight alterations of speed or direction in their individual courses.

Why does a spire or obelisk stand more securely on the earth than a pillar stands on the bottom of a moving wagon?

Because the motion of the earth is uniform, and not that the earth is more at rest than the wagon. Were the present rotation of our globe to be arrested but for a moment, imperial London, with its thousand spires and turrets, would be swept from its valley towards the eastern ocean, just as loose snow is swept away by a gust of wind.—*Arnott.*

Why does a ball let drop from the hand, fall with greater velocity the nearer it approaches the earth?

Because, owing to the inertia of matter, any force continuing to act on a mass which is free to obey it, produces in the mass a quickening or accelerated motion; for, as the motion given in the first instant continues afterwards without any farther force, merely on account of the inertia, it follows that as much more motion is added during the second instant, and as much again during the third, and so on. A falling body, therefore, under the influence of attraction, is, as it were a resorvoir, receiving every instant fresh velocity and momentum (or quantity of motion). The height of a precipice, or the depth of a well, may be judged of with considerable accuracy, by marking the time required for a body to fall through the space. A body falls four times as far in two seconds as in one, although the velocity at the end of two seconds, is only doubled.—*Arnott.*

A body falls by gravity precisely 16 1-16 feet in a second, and the velocity increases according to the squares of the time: *viz.*

In one quarter of a second a body falls		1 foot.
In half a second,	ditto	4 feet.
In one second,	ditto	16
Two seconds,	ditto	64
Three seconds,	ditto	145

The power of gravity at two miles distant from the earth, is four times less than at one mile; at three miles, nine times less; and so on. It goes on lestening, but is never destroyed.

Meteoric stones, falling from great heights, bury themselves deep in the earth, by the force of their gradually acquired velocity.

Why are we said to know of nothing which is absolutely at rest?

Because the earth is whirling round its axis, and round the sun; the sun is moving round his axis, and round the centre of gravity of the solar system; and, doubtless round some more remote centre in the great universe, carrying all his planets and comets about his path.

One of the grand laws of nature is, that all bodies persevere in their present state, whether of motion or rest, unless disturbed by some foreign power. Motion, therefore, once begun, would continue for ever; were it to meet with no interruption from external cause, such as the power of gravity, the resistance of the medium, &c.

Dr. Arnott adduces several familiar illustrations of motions and forces. Thus, all falling and pressing bodies exhibit *attraction* in its simplest form. *Repulsion* is instanced in explosion, steam, the action of springs, &c. Explosion of gunpowder is repulsion among the particles when assuming the form of air. Steam, by the repulsion among its particles, moves the piston of the steam engine. All elasticity, as seen in springs, collision, &c. belongs chiefly to repulsion. A spring, is often, as it were, a reservoir of force, kept readily charged for a purpose, as when a gun-lock is cocked, a watch wound up &c.

Why does a biliard ball stop when it strikes directly another ball of equal size, and the second ball proceed with the whole velocity which the first had?

Because the action which imparts the new motion is equal to the reaction which destroys the old. Although the transference of motion, in such a case, seems to be instantaneous, the change is really progressive, and is as follows: The approaching ball, at a certain point of time, has just given half of his motion to the other equal ball; and if both were of soft clay, they would then proceed together with half the velocity; but, as they are elastic, the touching parts at the moment supposed, are compressed by a spring between the balls; and by their expanding, and exerting force equally both ways, they double the velocity of the foremost ball, and destroy altogether the motion in the other.

CURIOUS EXHIBITION.—The Constitutionel contains the following incredible statement: "A curious exhibition is now open to the public at Cologne. It consists of a great number of very minute objects, made by a M. Debeershe. Among these *multum in minimo* may be seen, in half a nut, a draught-board and other objects, thirty-six in number, among which are a pair of scissors and a pen knife with two blades, which open and shut perfectly. In a whole nut, a cage containing a canary, which opens its bill, claps its wings, and imitates perfectly the warbling of that bird. In an almond shell, a Dutch windmill for cutting wood, which at each representation does actually cut a piece of wood. In an egg shell, an apartment magnificently carpeted, in which is a lady who opens a piano forte and plays two airs. Behind these is a marble chimney piece, with a bronze time-piece representing Napoleon on horseback. In a walnut, an elegant cafe, with all its accessories. A lady is at the counter, and two gentlemen alternately play a game of billiards. In an orange, a steam-boat, which executes all the movements of a real vessel; and in an egg, an automaton, which replies in writing to the questions which are put, sketches drawings, adds up a sum almost as quickly as the numbers are given, and presents the total in writing. All these objects are in gold, silver and steel, wonderfully executed, and, notwithstanding their extreme smallness, they are perfectly distinguishable with the eye."

LAWYERS.—The October number of the Democratic Guide, in reviewing the proceedings of the late long session of congress, states that of the 290 members composing that body 245 were lawyers. In this statement a very good reason is found why the people are saddled with so much expense, without an adequate equivalent, through the long and protracted session of the national legislature. More attention to the business of legislation, rather than so much speechifying upon unimportant matters, would far better subserve the interests of the people. It behooves our farmers, mechanics and workingmen to look to this matter. Let them select more men from their own number, to represent them in the national councils. Speech making seems a part of the lawyer's profession and study, and as long as the people continue to fill the two branches of congress with lawyers, they may expect that no little time will be frittered away in idle declamation. Jefferson said that he "never heard Gen. Washington or doctor Franklin speak more than ten minutes at a time, nor to any but the main point which was to decide the question." How different were those plain, simple and efficient legislators from the political gladiators who are now honored with seats in congress.—*Newburgh Telegraph.*

THE POWER OF THE PRESS.—In the year 1272, the wages of a laboring man were just three half pence per day; and at the same period the price of a Bible fairly written out was £30 sterling. Of course, a common laborer in those days could not have procured a Bible with less than the entire earnings of *thirteen years!* Now, a beautiful printed copy of the same book can be purchased with the earnings of one day!

Take another view of the subject. An ordinary clerk cannot make a fair *manuscript* copy of the Bible in less than *three months*. With a common printing press, work equivalent to printing a copy of the whole Bible can be done in *ten minutes;* and with a steam press of the most improved construction, the same work can be done in *three minutes!*

AMERICAN FLANNEL.—The enterprising and skillful finisher of cloths at the manufactory of the Ithaca Falls Woollen Manufacturing Company, at Fall Creek, in this village, Mr. Athwood, has sent to us a piece of flannel, as a sample of domestic manufacture. A very creditable sample it is, too. It is a clear blueish white, of downy softness, and beautiful texture and finish. We have never seen its quality equalled by any flannel of American manufacture. For under garments it will be indeed a luxury, and this 'specimen,' when rightly fashioned, will with great pleasure be admitted to the intimacies of a bosom companion.

The splendid establishment of this company attracts numerous visitors, and its beautiful and substantial fabrics are, we understand, in much demand.—*Ithaca Chronicle.*

PATRONIZING.—The publisher of the Register, the first newspaper printed at Thomaston, presented a bill to one of his subscribers who was indebted for five years subscription. The subscriber took the printed bill and read it with amazement: "Why," said he, "I can't pay this—I merely subscribed *to help you along!*"

Judging from the actions of some of our subscribers, we have quite a number who *only subscribed to help us in the same way!*

ALBANY, SATURDAY, DEC. 17, 1842.

THE "OPPOSITION OF INTERESTS."

There is no idea of such general prevalence, and yet of such utter falsity, as that the various interests of the several classes of American society are not identical, but antagonist. It may be, that the interests of a very small portion of our society are not identical with the great remainder, but under a proper organization, in the proper state of the great social body, and under a just and correct form of government, founded in correct principles, there can be no such thing as an opposition of interests; it is as impossible as that chaos should spring from order, or falsehood from truth. The laws of nature as well as of society harmonize—and something is wrong, something false, where true and perfect harmony does not exist. The interests of every class, if our organization or laws are correct, are inseparable; and what would tend to promote the interests of one class, or of the individuals that compose it, would infallibly tend to promote the interests of all classes, and of the individuals that compose them. This principle is recognized in that general assent which is given to the idea or proposition that the majority should govern, or that the interests of the majority should first be regarded—as if theirs were not also the interests of the minority. Now that is a false and unnatural state in which the interests of the various portions of society are made to clash; and if they do clash, no stronger proof is needed or can be adduced, that something is wrong in the "organism" (as Brownson would say) of society. If there be a class of men whose interests are not identical, or would not be forwarded by measures which would be of advantage to the great mass—the producing population—then the existence of this class is contrary to the natural laws of society, and would not be found to exist under a proper organization.

No one doubts, however, that such classes do exist; and hence the clamor which arises when measures designed for the benefit or advancement of the great mass of community are adopted. These classes are like physicians, whose very support depends upon the prevalence of disease, and cannot exist except it be under some derangement of the great social and political system. Yet, despite these, let it be remembered by the great mass of the American people—and to these we address ourselves—that whatever tends to promote the true interests and welfare of one of the two great divisions, the mechanics and farmers, tends also to the same result when regarded as to its effects upon the other great division. Let this be remembered and understood, and the motive which induces certain classes of men to cry out against these measures will be apparent. Let the laboring population judge for themselves in these matters, and bear in mind the great truth, that whatever tends to benefit the great mass of our country will also benefit every class whose existence is necessary either to our social or political welfare.

PROGRESS OF INVENTION.

Our worthy friends "down east," whose wonderful inventions, from the cotton gin down to wooden nutmegs, have excited the admiration as well as the risibilities of the world, are in a fair way to be rivalled, if not excelled, by some of the ingenious and cunning ones of the old world. It seems as if that peculiar egg-shaped bump which phrenologists have located a little above and forward of the ears—behight *invention*—and which has for a long time been supposed peculiar to the American cranium, has lately developed itself in great size upon the heads of our brethren across the water. At least we should judge so, if the accounts that reach us from time to time, of divers new and wonderful discoveries and inventions are not exaggerated. The latest reports that have come to our ears—and to which it may be well enough to say we do not give the utmost credence—are in relation to 'a new steam flying machine,' and a new type-setting machine. A full description of the latter appears in the English papers, and if true, it entirely throws in the back ground the one of which we spoke some time ago. It is styled by the journeymen printers "*the Infernal Machine*," and if it does not *fail*, will not *fail* to work a revolution in newspaper printing. It is the invention of a Capt. Rosenborgh, and is about to be put to test in the office of Messrs. Clowes & Son, the most extensive in London. To the machine is also attached a distributing machine, that works with the rapidity of a dozen men. According to the account in the *London News*, 10,800 types can be set in an hour, and that too by a person unacquainted with type setting. The account gives a full description of the operation of the machine, by which it appears that it is performed upon by keys similar to a piano, and that 24,000 types can be set in an hour, if no regard be had to the division and spelling of words. If this be true, and the expense of such a machine be not too great, the printers may hang up their sticks, and bid farewell to their cases. We have heard, however, of similar wonderful discoveries before this, and would not advise our brethren to give up their business, *just yet*.

With regard to the new "flying machine," we have no details, further than that the *London Atlas* says it is no *humbug*, and will, when set in operation, perform the journey to India in *four* days. We are inclined to believe, it is neither a *humbug* or any other sort of a bug, but that it is a non-existent. We live in an age of wonders, though—and must not be surprised at any event—must we, "Daddy Miller?"

By the way, it is rumored that somebody, down east of course, has constructed a ballon, to take off passengers who are not anxious to witness the great fireworks that are to take place in April—seats are put at $500 each, *payable in advance*—children half price, and no postponement on account of the weather. It is said—but in confidence—that Capt. Richardson is to take the command, and John Smith, of Smithville, to be first mate. This is mere rumor, however.

We would recommend the plan adopted by some of the tribes of South America near the Andes. They have notions very similar to those entertained by Mr. Miller, and are in daily fear of the same catastrophe, and when they discover anything remarkable in the appearance of the heavens, they clap calabashes on their heads and flee to the mountains till the impending danger is past. These novel coverings for the head are to protect them from the sun, which they suppose is to approach the earth and set it on fire. For the consolation of the Millerites in general, who may be destitute of calabashes, we will add, that empty skulls will answer every purpose, and thus they are safe. All this has nothing to do with the progress of invention, but nevertheless furnishes a chance for its exercise. *Vive la humbug*.

SUBMERGED WHEEL.

We have been shown the model of a submerged propelling wheel, for steamboats or other vessels. It is the invention of Elisha Tolles, of Williamsburgh, L. I., and formerly of N. York city. There can be no doubt of its complete success; and in case it does succeed, it will prove a desideratum long desired. Such a wheel is required for steam ships, more especially government steamers, so as to be out of the way of shot. A full description is promised us, as soon as the proper measures have been taken to secure the inventor from any invasion of his rights. It will be of interest to the public.

LETER FROM NEW YORK.

New York, Dec. 10.

Dear Sir—You see by my date that I am still in this metropolis; and I shall remain here for a few days longer, and if possible do something both to advance the interests of the mechanics and the paper. Here is a great field for those who are willing to labor in the cause of the laboring population; but, like most other places, there is an apathy and indifference which affords but little encouragement to "go ahead." In Brooklyn an association has already been formed, with the veteran publisher of the Star as president, and is now in full tide of success. Weekly meetings are held in rooms procured for the purpose, when addresses or discussions on various topics of interest and importance serve to pass the evening with profit and usefulness to all.

Taken together, it seems to me that I have never met a more intelligent, sound, and better informed class of men, than are the mechanics of Brooklyn; and the example they have set deserves to be followed by the entire body of the mechanics of the state and Union. Among the causes that have led to this state of things, the independence which has marked their course in relation to *party*, that curse and blight of our country, has been most powerful. The allegiance which is so blindly yielded to the demon is broken here, and as a consequence the mechanics command the respect and consideration of both the great divisions. Thus it is ever with party, those who bow servilely to its mandates are treated with contempt, while on the other hand the bold and fearless are respected. But notwithstanding all this, there yet remains much to be done by the mechanics of Brooklyn, and it is certainly gratifying to find that they have adopted the only means by which they can attain their high aim—*associate effort*. God speed them.

I was at the navy yard a few days ago, but how

different its appearance to that which it presented a year since! A few solitary sentinels pacing their rounds, and the click of half a dozen hammers in the forges, were all that relieved the monotony to the eye, or broke the silence to the ear. The question instantly rose to my mind, where are the hundreds of laborers that a short time ago made this place a scene of bustling activity? Yes—where are they? busily employed, or idle and desponding?

Brooklyn is but a miniature edition of New York, and though the second city in point of population in the state, yet it can bear no comparison in any other respect with our good burgh of Albany. The residences on the heights in the lower part of the city are delightful in summer, and as pleasant as they can be under the circumstances, in winter. Near the navy yard is the tomb that contains the bones of over 11,000 of the patriots of the revolution, who died in the prison ships of the English. Here they are—the bones of the martyrs, from every one of the old thirteen states, and here let them rest—honored, sacred!

Last Wednesday evening, a meeting was held at Military Hall, in this city, and the preliminary steps taken towards forming an association, auxiliary to the State Association of Mechanics. Next Tuesday evening the mechanics are to meet again to receive the report of the committee and adopt a constitution. I doubt not but that *now* something will be done; for be it known, that every step heretofore has failed in its purpose. I need not say that there are an immense body of mechanics here, but the lack of any organization has prevented their proper influence from being felt. It is true, that even without organization they have been enabled to send a pretty fair proportion of the N. York delegation in our legislature from their own body; but in other matters this lack has retarded very materially their interests. The prison system of our state most sensibly affects the interests of the mechanics here; and were they aware of their own weight and influence, they could accomplish an immense deal of good. Here, as I have said, is an immense field, and if this effort now making is followed up as it should be, the city of New York will take the station which she should have done years ago. The delirium of party, I need scarcely add, rages here with all its virulence; but the conservative feeling which has lately manifested itself in various parts of the state among the ranks of the mechanics, is slowly but surely extending itself here, and the time is fast coming when all will be impressed with the importance, nay the absolute necessity, of acting in all things for themselves, instead of following blindly and implicitly the mandates of party, and swallowing the sophisms of demagogues.

The paper, as far as I can learn, meets the warm approval of all, and if it were placed in a proper light before the laboring population here, would be taken in preference to any other. It is true that a very large portion of the mechanics are out of employ at present, and cnnnot afford even the small sum of three cents per week, but these cases are comparatively rare, and if the mechanics themselves would take hold energetically, they could do more to extend the circulation than fifty agents. I hope they will bear this in mind.

Thanksgiving day here was very generally observed, and in the course of quite a long walk which I ventured to make, in the midst of the freezing sleet, I saw but one or two places of but siness open. This it appears to me is something remarkable for the city of New York. During the past week the streets and side walks have been covered with snow and ice and mud, rendering walking any thing but a pleasure; but it has now improved materially.

The water of the Croton is now used to wash the side walks, to the imminent danger of the "Day & Martin's," in the money which you paid the *black* for "distributing over your boots." The jet in the park is something of a novelty, but far from beautiful. The rough iron pipes, peeping above the water like so many huge bull frogs, without any statuary, or the slightest effort at concealment, are, to say the least, in bad taste. Taken upon the whole, however, I think the Croton river a decidedly *great squirt*. By way of change, it burst its confinement the other day, in Canal street, and for a number of rods tore up the street with a perfect vengeance, and the Millerites began straightway to talk of a flood; and I have it on poor authority, that the prophet has found this event foretold.

Last evening a meeting of the mechanics was held at Jersey City, and a considerable interest appears to be excited. It is certainly gratifying to witness these movements, and I most firmly hope and believe that no long time will elapse before the whole laboring population of our country will move in these matters in a mass. The new association in Jersey City—whilom Paulus' Hook—is very similar to the one in Brooklyn, and promises to be of great usefulness. I most heartily wish that it may prosper—and under the auspices which it has started I doubt not but that it will. The leading and influential men of the place, as well as in Brooklyn and here, seem much interested.

I have not time to speak of all the matters that I at first intended, but you shall hear from me again ere long.

Yours, truly, E. G. S.

BOAT TO RESCUE NAPOLEON.

Mr. Editor—In the number of your paper for the 19th of November last, I observed an article with the above title. The account there being incorrect, I give you one quite authentic, being furnished by a person who was unwittingly concerned in the preparations for the enterprise to carry off the illustrious prisoner of St. Helena. I refer to our fellow citizen William Annesley.

Whsn this gentleman was engaged, in the year 1820, in his early attempts at the construction of vessels on his System of Naval Architecture, he was employed at near Vauxhall, by the famous Capt. Johnson (a man who, having proved himself a smuggler, a man of extraordinary prowess, had been taken into the naval service of England) to build a fast sailing schooner of 115 tons, for a private enterprise—whilst he himself was engaged in the construction of a smaller vessel, upon the same system, to be connected with the enterprise. The schooner is described in a *Commentary on the Annesley System*, published in 1823. "Her length was 82 feet, breadth 17 feet, depth 9 feet. This vessel, designed for a special purpose, was built uniformly strong throughout, in 7 courses—4 longitudinal of 1 inch—3 transverse of ½ inch—5½ inches through. Her deck was formed by continuing the courses over, forming an ellipsis, and the sides of the deck were raised upon brackets." The lesser vessel, a submarine, was about 12 tons, and was constructed in a similar manner.

The two vessels were to proceed together to the vicinity of St. Helena, when the lesser vessel, being submerged, and in that condition propelled by a screw, (the modern Archimedian screw, as prepared by Bushnell for his Yankee diving boat, to be used in the torpedo warfare of the revolution) was to approach the coast and establish a communication with the illustrious exile, and bring him off to the schooner, which should lay off and on in the neighborhood, out of sight of the guard ships which constantly cruised around the prison isle.

It was supposed by all who were not in the secret, that these vessels were intended as smuggling craft, and that Johnson was planning some enterprise in evasion of his majesty's custom-house. The death of Napoleon before the vessels were completed terminated the enterprise, and the secret came out.

I am pleased to seize this opportunity of calling the public attention again to the Annesley System. The above narration serves to show that the reputation of an able, daring and accomplished seaman—for such Johnson was well known to be—was staked in the most serious venture of the age, on the superiority of the Annesley vessels over timber ones; and that where trials were to be encountered, and hazards to be risked, which required the most perfect combination of the elements of naval construction to avoid or resist them. D.

INTELLIGENCE.

In passing through Milton says a gentleman of Massachusetts, we noticed a wooden leg manufactured by Mr. Leonard Morse of that town. It is so ingeniously made that if a man's leg is cut off above the knee he may use this without limping. There are springs to it so contrived that the wearer can use it without pain and without any suspicion of his loss. We have not seen one of this kind before, and we should judge it must prove a great relief to any who had the loss of a leg.

We are glad to see our old friend E. B. Slason, saddle, harnesss and trunk maker, back to his old store corner of State and South Pearl sts. He has opened in Blunt's splendid buildings with a large assortment of articles in his line of business. He turns out as good work as any other saddler and harness maker in this city. We recommend him to the liberal patronage of our citizens.—*Alb. Citizen.*

Ninety-four tons of poultry were brought to Boston from Rhode Island, the day previous to thanksgiving, on the Providence Railroad. They sold for about $23,500.

Watches made by Machinery.—The London correspondent of the Journal of Commerce says that some gentleman has been devoting twenty years of his life to inventions, whereby he is now enabled, by a variety of machines, to construct an incredible number of watches, of every variety of sizes, *in a day!* By one machine 300 perfect plates can be produced in one day—and by five machines, also centre, third and fourth wheels, crossed, polished and cut—with balances for 300 movements. By another, 300 pinions are cut and rounded—another drills the holes, &c., planting the depths and escapements. Four

other machines will make pivots for 50 movements a day. Twenty other machines, for every description of work connected with watchmaking, make up the set. The best chronometer makers in London have declared that every part produced by them is far superior to any thing that has been or can be produced by other means at the present day.

The Clinton Island Mills owned by Lawrence and Richardson, were burned to the ground on Wednesday morning last—originating, it is supposed, from the friction of the smut machine. Total loss from 20 to 30,000 dollars—Insurance about $10,000.

Barrett, Farnham & Co.'s large tannery, situated in Marginal street, Chelsea, was burned down at two o'clock on the morning of the 7th inst. Messrs Barrett, Farnham & Co. lost $8000 of property—insured $1500.

That immense work, the ship canal which connects the St. Lawrence with the upper lakes, is completed, as will be seen by the following extract from the Kingston Whig of Nov. 30. We have not sooner been able to notice it.

This forenoon the inhabitants of Kingston were greatly surprised by the arrival from Cornwall of the beautiful and capacious steamboat Highlander, Capt, Stearns. This steamboat was the first vessel that passed through the St. Lawrence canal, which achievement she performed on Friday last.

Although one of the largest steamboats afloat, the Highlander met with no difficulty in passing through the canal or locks. She left the mouth of the canal yesterday, and ascended the rapids between that and Prescott with the greatest ease.

When the city authorities heard of the Highlander's arrival the acting mayor and corporation went on board in a body, and congratulated Capt. Stearns on the event. The authorities then invited the captain of the boat, Capt. Whipple, the managing proprietor, and such of the forwarding merchants as were present, to the British American hotel, where lunch was prepared, during the discussion of which a vast many complimentary toasts were drunk, and several good speeches made. The Highlander will depart on her return home on Thursday.

Samuel Woodworth, author of the *Old* (and much worn) *Wooden Bucket*, died in New York on the 9th inst.

The house of Representatives of New Hampshire have declared by a vote of 111 to 106, in favor of the total abolition of capital punishment.

The Indianapolis Sentinal of the 29th ultimo says: "We are informed by a gentleman who has recently visited the place, that subterranean fire has been raging in Putnam county for several weeks. It has extended *under* a space of some acres of ground, about one and a half or two miles south of Manhattan, and the timber had commenced falling in every direction on the 'infected district.' Where the earth has fallen in, it has left openings through which smoke issues constantly. Various causes for the phenomenon are supposed; but the most reasonable seems to be that a vein of coal, with which the country abounds, has become ignited from some cause, perhaps lightning.

The steamboat Amaranth struck a snag near the mouth of St. Mary's river, and sunk on the 24th ult. It is probable the boat may be raised, and the cargo will be partly lost.

The steamer Gen. Pratte, from New Orleans, bound for St. Louis, with a full freight, and about five hundred German emigrants, took fire at the foot of Island No. 40, twelve miles above Memphis, at 2 o'clock, on the morning of the 25th ult. and was burned to the water's edge. Boat and cargo a total loss—no insurance. No lives lost.

On the night of the 23d ultimo the *Iris* was sunk in the Cumberland river, near Eddyville.

FOREIGN ITEMS.

A mechanician of a little town in Bohemia, has constructed an automaton which imitates perfectly the human voice, particularly the soprano notes. It sings several difficult airs, with the greatest acuracy. Shakes, runs, and chromatic scales are all executed with surprising precision. This automaton, in singing, even pronounces certain words, so as to be easily understood. The inventor hopes to arrive at such a point of perfection, as to bring his machine to pronounce all the words of the best operas.

On Saturday week the first section of a new system of wood paving was laid down at the entrance to Lombard street. It is called by the inventer the 'Stereoprism" system, and is about the sixth now 'upon trial in the metropolis.

The Lords Commissioners of the Admiralty have adopted the design of a magnificent steam war vessel, with propelling engines of 800 horse power, submitted by Mr. Oliver Lang, master shipwright of the Woolwich dock yard, and have ordered that she be constructed at that dock yard, under the immediate personal superintendence of Mr. Lang.

There is a machine for which a company has taken out a patent, which is to convey passengers, goods, and dispatches through the air, performing the journey from London to India in four days! and to travel at the rate of from 75 to 100 miles per hour! A company of gentlemen is really formed even of mechanical men, the pattent was formally sealed on the 29th of September last, and systematic arrangements are in progress to complete the design. In January the machine will be thoroughly organized, and until then we take leave of the subject, and only trust that this alledged invention is neither exaggerated, nor an Utopian project; and from the conversation we had with those in connection with the design, we have every reason to believe that neither is the case.—*London Atlas.*

M. Arago is of the opinion that the newly discovered comet in Draco will in a few days become more and more visible. Its tail has already become more luminous, but there is reason to fear, from the variations in its light, that it is rapidly approaching to perihelium.

It may be interesting to our readers to know that those beautiful imitations of the diamond which have lately attracted so much attention, are made by a chemist in Paris, and are only the oxide of tin. It is to be regrettet that the briliancy which has rendered this imitation so famous cannot be depended upon, as, after exposure for some time, they become as dull as common glass.—*Mining Journal.*

Mr. William Hone, the well known political parodist and author or the *Everyday Book*, died recently after a long illness in the 63d year of his age.

The celebrated Locke, when in France, in the year 1696, speaks of parasols, the first we know of them, in a journal he kept, "as a pretty sort of cover for women riding in the sun, made of straw, something like tin covers for dishes."

James Fellows, Esq., of the city of New York, has obtained a patent for a newly invented grooved iron carriage track.

The model is at No. 17 Maiden Lane.

By the *Herkimer Journal* we learn that the boot and shoe establishment of Peter I. Lepper, on Main street near the rail road in that village, was wholly destroyed by fire on the night of Tuesday of last week. The building, stock and tools destroyed are estimated at twelve to fifteen hundred dollars—of which $750 is covered by insurance.

BUSINESS NOTICES.

☞ All letters and communications intended for this paper should be *post paid to secure attention.*

Terms for vol. 2.—To clubs of 20 or more, having the paper sent in one package, $1 each per annum, in advance.

To clubs of not less than 5, sent as above, $1.25 each, in advance.

Single subscribers $1.50, in advance.

Members of the state and county or town associations, subscribing through the secretary, are entitled to the paper at $1 per annum, in advance.

Subscribers who do not pay in advance, $2 per annum.

BINDING.—Subscribers wanting their volumes bound, can have them done in any style and at reasonable prices, by leaving them at this office.

Wood Engraving and Designing.

E. FORBES is prepared to attend to all business of the above description at the *Sculpture Rooms* 17 Stanwix Hall.

BOOK BINDING.—HARVEY H. CORNING, sign of the golden ledger, 82 State street, Albany, carries on the above business in all its various branches, viz: PLAIN, EXTRA and SUPER EXTRA—has a first rate RULING MACHINE and other necessary implements for manufacturing BLANK BOOKS of every description, on the most reasonable terms, of the best materials and workmanship.

N. B. An assortment kept on hand. 27.

FIRE ENGINES!!

THE subscribers are manufacturing at Waterford, on an extensive scale, Fire Engines of various patterns, to suit purchasers, and they do not hesitate to recommend their Engines as decidedly superior to any now in use.

They manufacture the common Piston Engine, to work with chains or connecting rods, which they have improved in the construction of the brakes and the application of the power, so as to give them a decided advantage over those now in use. They also manufacture Rogers' Patent Balance Fire Engine, which has always been proved to be of *superior* power to all others.

Prices at the Factory, in complete order for use:

Those designed					
For 40 men, largest Philadelphia size or 11 inch chambers,					$850
" 28 " "	Albany	"	8 1-4	"	700
" 22 " "	Common	"	7	"	600
" 16 " "	N. York city	"	6 1-2	"	550
" 12 " "	Small		5 1-2	"	450

These prices are one hundred dollars below what engines have formerly been sold for, but they are reduced to suit the times.

The above prices can be reduced $50, by dispensing with the tower and goose neck and passing the water through the forward end of the machine. The *utility* of such an engine is fully equal to any other form, but its appearance is not quite so good. They also manufacture Factory Engines and Forcing Pumps of all sizes; Suction and Leading Hose to order, both rivetted and sewed, of the best quality.

They have been in the business 8 years, and might furnish many testimonials of good workmanship, &c., but as purchasers are supposed to prefer judging for themselves, the subscribers will furnish an engine where desired, and if on trial it is not fully equal in *all* respects to the *best* engines now in use, they will take it away without charge. Having an unlimited water power situated at the head of sloop navigation on the Hudson river, and near the junction of the Champlain and Erie canal, with a rail road connecting east with Boston and west with Buffalo, our facilities and arrangements for manufacturing are such that orders can be filled at any season of the year, and with the greatest promptness and despatch at the lowest rates.

L. BUTTON & Co.,
Waterford, Saratoga Co., N. Y.

LEATHER, OIL, AND FINDING STORE,

No. 18 *Hudson Street.*

J. HOCHSTRASSER,

Will continue the above business at his old stand, and having made arrangements with manufacturers of Leather and Morocco in the cities of NEW-YORK, PHILADELPHIA, and ALBANY, and having in his employ first rate workmen, he is enabled to supply his customers with all the articles in his line on the most reasonable terms, at *Wholesale* or *Retail*, the following are included in his assortment: Oak and Hemlock Harness, Bridle, Collar, Horse, Trunk, Valise and Skirting Leather; Hog Skins, Philadelphia Russet Bridle, do. Facing Skins, do. Lining Hides, do. Top Hides, Patent Leather, Conch Roans, Neats Foot and Liver Oil, Currier's Tools, Oak Sole Leather, Hemlock do., Wax and Grain Upper Leather, do. Calf Skins, Keen's Philadelphia do., Seal and Kip Skins, Splits and Welt Leather, Cordovan, Red, Green, White and Yellow Linings, Goat and Sheep Binding Skins, White Alum Dressed Linings, Dressed and Undressed Morocco, Colored Goat and Sheep Skins, English Shoe Thread of all numbers, India Rubber and Patent Cloth, Apron Skins, Stock Binding, &c.

N. B. An assortment of SHOE MAKER'S FINDINGS will be kept on hand.

Also, *Roller Skins, Engine Hose, Band, Picker, String,* and *Patent Leather,* on hand and made to order. *Albany,* 1841.

MISCELLANY.

TIE GREEN MOUNTAIN BOY.

BY JESSE E. DOW.

Ho! give me my father's silent gun
Baptised in the blood of Lexington:
And over my youthful bosom fling
His powder-horn with its crimson string—
And spread around me his blanket warm,
That I may battle the winter's storm:
So bless me, mothers, with tears of joy,
For I am a wild Green Mountain boy.

The hills that smile in the morning beam,
And echo the eagle's matin scream;
The shady rivers that bowl along
Like the gusty tide of a drinking song;
The pensive vale, and the laughing lea,
That came through the revolution free:
They wait to echo my shout of joy,
For I am a wild Green Mountain boy.

Oh tell me not that the south forgot
The breast that leaped to the bayonet,
When Eutaw mingled her fountain's flood
With the crimson tide of New England blood,
And the soldier drooped 'mid the tangled vines,
And found a grave in the Carolines;
Oh, she'll receive me with shouts of joy
For I am a wild Green Mountain boy.

By grandsire stood, with his mountaineers,
By the sunny vales of the cavaliers;
And gather'd amid the sylvan glen,
To the wild halloo of Marion's men,
And listen'd to Sampter's rifles ring,
And bath'd his temples in Jasper's spring,
The rattling bullets he heard with joy
For he was a wild Green Mountain boy.

Ho! ye who boast 'neath a southern sun,
Have ye a greater than Bennington?
Or sleep our fathers in glory now
Above the dead upon Bunker's brow?
Your martial spirits, in days gone by,
Knew how the men of the north could die;
And the haughtiest sneer cannot destroy
The fame of the wild Green Mountain boy.

My heart in its morning dream aspires
To reach the fame of mountain sires,
To spring to the battle's single note,
And bid the flag of their glory float;
And I would haste from the mountain glen
To join the children of Marion's men:
And loud the valleys should peal my joy,
For I am a wild Green Mountain boy.

MECHANICS' GARDENS.—Every mechanic in the country towns should have a garden. More exercise in the open air is needed by that class of our mechanics which occupies the shoe shops of our country villages. Here may be seen eight or ten men crowded into a small dirty shop, with less space for the whole number than is often allowed for a respectable horse in his stable.

It cannot be possible that health should long prevail where there is no wholesome air. Yet these shops are sought for by our young men in preference to the open fields of the farmer, where health is wafted on every breeze. It would be well for every mechanic whose business is in a tight room to labor at least one hour in the day in the open air.

How agreeable it is to many to raise their own apples, their peaches, and their cabbages! All the vegetables for a small family may be raised on a small lot of ground. But then our delicate mechanics might injure their complexions by exposure to the sun. Cannot a veil of leather be drawn over their faces to preserve their complexion, and yet admit a little fresh air to their lungs?

So many farmers have left the plough for the awl and the peg, that their wages are reduced to the minimum. This business, however, will find its level without any special legislation. But we admire to see a mechanic who has a family possess a garden also, to employ his leisure hours, to call him out into the fresh air, and to give employment to his children.—*Ploughman.*

HIGH PRESSURE PATHOS.—A western editor, while describing a hurricane which passed over his village, throws in the richest licks. He intimates that the cloud which contained the heavy charge of wind was of the blackest and most ferocious hue; that the force of the hurricane blew off and prostrated every thing, including a little nigger; that nothing could withstand the tremendous and outrageous force of the blast; and that at one particular time he entertained serious fears for the roof of his aunt's wood shed!

POWER OF IMAGINATION.—An honest New England farmer started early one cold day in winter, with his sled and oxen into the forest, half a mile from home, for the purpose of chopping a load of wood. Having felled a tree, he drove the team alongside, and commenced chopping it up. By an unlucky hit he brought the whole bit of the ax across his foot with a side-long stroke. The immense gash so alarmed him as to deprive him of all his strength. He felt the warm blood filling his shoe. With great difficulty he succeeded in rolling himself on the sled, and started the oxen for home. As soon as he reached the door, he called eagerly for help. His terrified wife and daughter with much effort lifted him into the house, as he was wholly unable to help himself, saying that his foot was nearly severed from his leg. He was laid carefully on the bed, groaning all the while very bitterly. His wife hastly prepared a dressing, and removed the shoe and sock, expecting to see a desperate wound, when lo! the skin was not even broken. Before going out in the morning, he had wrapped his feet in red flannel, to protect them from the cold; the gash opened this to his view, and he thought it flesh and blood. His reason not correcting the mistake, all the pain and loss of power which attends a real wound followed. Man often suffers more from imaginary evil, than from real ones.

ZOOLOGICAL EXHIBITION.—Among the curiosities now exhibiting at the Liverpool Institute, is Mr. John Austin's collection of animals of opposite nature living in one cage. There are eighteen rats, four cats, four kittens, two hawks, two owls, eight Guinea pigs, five starlings, one squirrel, two rabbits, six pigeons, a hedgehog, and forty young ones, all living in harmony! The rats run about and fondle with the cats, the starlings fly on the cat's head, and rest there without being disturbed; the hawks fly about at pleasure, and rest on the same perch with the pigeons and starlings, and not the least discord prevails. As one family, they feed out the same dish, and are perfectly harmless. This rare and curious collection has attracted great notice.—*N. Y. Sun.*

THE SUNNY SIDE.—How much more pleasant is it to the pure heart to do good—to kindle the more gentle and noble feelings of our nature, than, by misrepresentations, hints, or dark inuendos, to break in upon long established friendship, and disturb the good feelings of years of intimacy. In all our associations, commend us to him who ever presents the sunny side of life's picture to our gaze; he who has always a "pleasant word to speak," and is ever disposed to throw the mantle of oblivion over the foibles of erring man. Such a man we could wear in our "heart's core—ay, in our heart of hearts." But from the mischief maker, whose bosom is filled with a canker worm which knows no pleasure except in that which torments others, "good Lord deliver us."

LITTLE FOLKS.—Ii is related that archbihsop Gibson, a celebrated painter in England during the reign of Charles I. was only three feet ten inches high. He became smitten with the charms of a pretty little maiden, named Ann Shepard, who, although she had attained her full height, was only three feet nine inches and a half. She accepted his hand, and the little couple were married in the presence of the king and queen. They lived happily together, and were the parents of nine children, five of whom lived to maturity, and were of ordinary size. Gibson was the instructor of queen Ann in drawing. He was in his seventy-fifth year when he died, and his little widow lived till she was eighty-nine!

A lady asked a clergyman if she might pay attention to dress and fashion without being proud. "Madam," replied the minister, "whenever you see the tail of a fox out of a hole, you may be sure the fox is there also."

PATENT AGENCY AND MECHANICAL ENGINEERING, *Office on F street, between 7th and 8th streets, opposite the Patent Office, Washington City, D. C.*—The subscriber has resigned his situation in the patent office (where he for some time superintended the restoration of patents destroyed by fire in 1836) to devote himself to the preparation of specifications and drawings, and all matters connected with the obtaining of patents for useful inventions either in this country or Europe. His experience in theoretical and practical mechanics, together with an intimate knowledge of the progress of the useful arts and manufactures, at home and abroad, will enable him to judge of the novelty and utility of inventions submitted to his examination; and as patents are not granted, under the existing patent laws, when the alleged inventions are wanting in novelty, or contravene the established laws of science, he will be able to furnish all the information necessary to avoid the expense of making application for patents which could not be granted.

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A model for a machine or apparatus, or specimens for a composition of matter, are required by law, before a patent can issue; by sending a model or specimens to the subscriber, with a short statement of the object of the invention, the necessary papers and drawings will be prepared and forwarded to the applicant for execution, thereby obviating the expenses consequent upon a journey to Washington, or delay in issuing the patent.

Being well acquainted with the patent laws of the United State, England and France, and the decisions of the courts in patent cases, he tenders his services where information is required in reference to infringements of patents, or defence against suits for infringement, such as compiling and arranging evidence, &c.

To individuals and companies wishing to procure drawings and estimates of machinery, or buildings, for manufactories, on the most modern and improved plans, or any other matter connected with mechanical engineering, he will furnish information; and, should it be required, will locate and superintend structures of this description.

Wishing to be generally useful to mechanics and inventors, he will attend to the sale of machinery and patent rights; this, being a place of resort from all parts of the Union, is perhaps the best location for such a purpose.

Papers relating to patents can be sent to the commissioner of patents, when voluminous, free of postage, and models sent to the collectors of the principal ports, will also come free of expense, and the subscriber can be advised thereof by letter, which in all cases must be post paid. All applications for information relating to patents must be accompanied by a fee of five dollars; charges for other business transactions will be made according to their magnitude. J. JAMES GREENOUGH.

Certificate of HON. H. L. ELLSWORTH, *Commissioner of Patents.*
PATENT OFFICE, NOV. 20TH, 1842.

Mr. *J. J. Greenough*, who has for some years been employed in the patent office, in a highly responsible situation, under the act of 1836, restoring the records, having to my regret tendered his resignation, I take great pleasure in recommending him as a gentleman worthy of confidence, and as being particularly qualified to take charge of any business requiring a knowledge of mechanical science, the progress of the arts, and patent improvements. Mr. Greenough is also well acquainted with the practice of this office. HENRY L. ELLSWORTH.

REFERENCES.—Hon. S Prentiss, of *Vt.*, U. S. Senate; Hon. J. P. Kennedy, of *Md.*, U. S. House of Rep.; Hon. John C. Clark, of *N. Y.*, U. S. House of Rep.; Hon W. Cranch, *Chief Justice, D. C.*; J. W. Hand, Esq., *Chief Clerk, Patent Office;* C. M. Keeler, Esq., *Examiner, Patent Office.*

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